

## **REMARKS**

Claims 1-20 were pending in the present application. Claims 1, 9, 12, and 18 have been amended. Claims 3, 6, and 14 have been canceled. New claims 21-23 have been added. Support for new claims 21-23 may be found, *inter alia*, on page 7, lines 28-29 of the present application. No new matter has been added. Therefore, claims 1, 2, 4, 5, 7-13, and 15-23 are now pending in the present application.

### **Specification Objections**

The specification is objected to because of informalities. The specification has been amended where appropriate. Withdrawal of the objections is respectfully requested.

### **Claim Rejections**

Claims 1-9 and 12-20 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,504,546 to Cosatto et al. (hereinafter “Cosatto”). Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Cosatto in view of U.S. Patent No. 5,652,670 to Hayashi (hereinafter “Hayashi”). Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Cosatto. Applicant respectfully traverses these rejections for at least the following reasons.

Claim 1 has been amended to recite repeatedly imaging the object to produce a first video and repeating steps c) – e) (i.e., determining, sending, and morphing) to produce a second video that substantially corresponds to the first video. Cosatto does not teach, disclose, or suggest these features.

Cosatto is addressed to two aspects of video animation: a) population of a database with an n-dimensional grid of bitmaps (col. 10, line 54 to col. 11, line 15); and b) creating a video animation by mapping phonemes to visemes (i.e., mapping bitmaps stored in the database to their corresponding phonemes) (col. 14, lines 24-31).

In aspect a), Cosatto discloses video recording a person “speaking a few short sentences to obtain all of the different mouth shapes,” subsequently applying a three-step

recognition system, extracting and normalizing face parts from the video sequences, and labeling and sorting the samples into the database. (See, e.g., col. 6, lines 50-59, col. 7, lines 27-39, and col. 10, lines 54-64.)

In aspect b), Cosatto discloses creating a string of phonemes from a text-to-speech synthesizer, calculating motion trajectories for facial parts, sampling the trajectories (e.g., at 30 times per second), selecting bitmaps from the database based on the sampled trajectories, and applying the bitmaps to a base face to form a video. (See, e.g., col. 12, line 35 to col. 13, line 34.)

In other words, Cosatto is addressed to creating a bitmap database based on an actual video of a human person, and subsequently creating a fictitious facial animation video from input text, where the fictitious video has absolutely no relation or correspondence to the actual video.

In sharp contrast, claim 1 recites repeatedly imaging the object to produce a first video and repeating steps c) – e) (i.e., determining, sending, and morphing) to produce a second video that substantially corresponds to the first video. Cosatto does not teach, disclose, or suggest these features. An advantage of these features is that an animation video that substantially corresponds to an actual video can be created without the need for all of the information contained in the actual video. Thus, in one embodiment, an actual video may be processed by a sender, and an animation video may be created by a receiver remotely connected to the sender via a low-bandwidth information line. Therefore, claim 1, and all claims dependent therefrom, are believed to be patentable over Cosatto. Hayashi fails to cure the deficiencies of Cosatto. Withdrawal of the rejections is respectfully requested.

Amended claims 12 and 18 each recites providing a sender processor, providing a receiver processor, and sending the voice information from the sender processor to the receiver processor via an information line.

The Office Action on page 3 contends that Cosatto discloses a communication line between a low cost PC and the image bitmap database. However, the image bitmap database is not a processor. Therefore, Cosatto does not teach, disclose, or suggest providing a sender processor and sending the voice information from the sender processor to the receiver processor via an information line.

Amended claims 12 and 18 each further recites recording voice information of a human. Further, claim 12 recites morphing the image based at least partially on the mouth image position data and a sound recognized in the voice information, and claim 18 recites creating a virtual video of the person speaking based at least partially on the plurality of images and a sound recognized in the voice information. As mentioned, Cosatto is addressed to creating an animation video based on a sound created from a text-to-speech synthesizer, not from voice information of a human.

Therefore, claims 12 and 18, and all claims dependent therefrom, are believed to be patentable over Cosatto. Hayashi fails to cure the deficiencies of Cosatto. Withdrawal of the rejections is respectfully requested.

The dependent claims contain further patentable features. For example, claim 7 recites identifying the plurality of third identifiable image points in the third image by point tracking. Cosatto does not teach, disclose, or suggest point tracking or anything similar.

New claims 21-23 recite additional patentable features. For example, claim 21 recites that the sender and receiver are located in different cities. Cosatto does not teach, disclose, or suggest these features.

### **Fees and Conclusion**

Applicant believes that he has paid for 20 claims, including three independent claims. Because the present application now includes 20 pending claims, including three independent claims, Applicant believes that no fee is due herewith. Applicant respectfully requests notification if additional fees are due.

Applicant respectfully requests entrance of the present amendments and a Notice of Allowance. If the Examiner believes that a telephone conference will further prosecution of the present case, the Examiner is invited to contact Applicant at the number indicated below.

Respectfully submitted,

  
Andrew F. Knight

8/6/05  
Date

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